15. The composition of claim 1, wherein said promoter/regulatory sequence is selected from the group consisting of the cytomegalovirus immediate early promoter/enhancer, the skeletal muscle actin promoter and the muscle creatine kinase promoter/enhancer.

16. The composition of claim 1, wherein said transcription termination signal is the SV40 transcription termination signal.

17. A kit including the vector of claim 1, and instructions for using said kit.--

REMARKS

These remarks are in response to the Office Action mailed May 20, 2002. Claims 1 to 9 are pending. By the present amendment, new claims 10 to 17 have been added. Accordingly, upon entry of the amendment, claims 1 to 17 are pending. Applicants respectfully request re-consideration of the application.

Regarding the Amendments

Support for the amendment can be found throughout the specification. In particular, the amendments to claim 1 to recite that the composition comprises "a virus, said virus comprising a recombinant adeno-associated virus vector comprising at least two adeno-associated virus inverted terminal repeats, a promoter/regulatory sequence, isolated DNA encoding Factor IX and accompanying 5' and 3' untranslated regions and a transcription termination signal," is supported, for example, at page 22, lines 6-28, which discloses production and purification of virus containing Factor IX. The amendment to claim 1 is also supported, for example, at page 19, line 25, to page 20, line 10, which discloses administration of viral vector genomes at various amounts, for example, "in a single site injection, a suspension of virus is injected into the muscle" (see, also, page 23, lines 13-23; and page 30, lines 9-17). Thus, as the amendment is supported by the specification, no new matter has been added and entry thereof is respectfully requested.

Regarding the New Claims

New claims 10 to 17, which paraphrase claims 4, 5, 2, 3 and 6 to 9, respectively, prior to the present amendment of claim 1, have been added. New claims 10 to 17 are therefore supported by originally filed claims 4, 5, 2, 3 and 6 to 9. As such, no new matter has been added and entry thereof is respectfully requested.

I. REJECTION UNDER 35 U.S.C. §102(e)

The rejection of claims 1 to 3 and 6 to 8 under 35 U.S.C. §102(e) as allegedly anticipated by Wiener *et al.* (U.S. Patent No. 6,342,390) is respectfully traversed.

Anticipation requires the disclosure in a single prior art reference of each element of the claim under consideration (In re Spada, 15 USPQ 2d 1655 (Fed. Cir. 1990), In re Bond, 15 USPQ 2d 1566 (Fed. Cir. 1990).

Applicants submit that Wiener *et al.* (U.S. Patent No. 6,342,390) do not teach each and every element of the claimed invention. Nevertheless, solely in order to expedite prosecution, claim 1 has been amended as set forth above. The rejection will therefore be addressed in respect to amended claim 1.

Claim 1, as amended, is directed to a "virus, said virus comprising a recombinant adeno-associated virus vector comprising at least two adeno-associated virus inverted terminal repeats, a promoter/regulatory sequence, isolated DNA encoding Factor IX and accompanying 5' and 3' untranslated regions and a transcription termination signal." Wiener *et al.* do not teach or suggest each element of the claimed composition. Thus, Wiener *e. al.* do not anticipate claim 1 or depending claims 2 to 9 and, as such, the rejection under 35 U.S.C. §102(e) over Wiener *et al.* (U.S. Patent No. 6,342,390) should properly be withdrawn.

II. REJECTION UNDER 35 U.S.C. §103(a)

The rejection of claims 1 to 3 and 6 to 9 under 35 U.S.C. §103(a) as allegedly unpatentable over Wiener *et al.* (U.S. Patent No. 6,342,390) in view of Crabtree *et al.* (U.S. Patent No. 5,834,266) is respectfully traversed.

Neither Wiener *et al.* nor Crabtree *et al.* alone, or in combination, teach or suggest the claimed invention. Nevertheless, solely in order to expedite prosecution, claim 1 has been amended as set forth above. The rejection will therefore be addressed in respect to amended claim 1.

As discussed above, Wiener *et al.* do not teach or suggest the claimed compositions. In particular, there is no teaching or suggestion to produce "a virus, said virus comprising a recombinant adeno-associated virus vector comprising at least two adeno-associated virus inverted terminal repeats, a promoter/regulatory sequence, isolated DNA encoding Factor IX and accompanying 5' and 3' untranslated regions and a transcription termination signal."

Furthermore, Wiener *et al.* teach away from producing the claimed compositions. In particular, for example, Wiener *et al.* state at column 1, lines 45-51, that:

> "Many clinical gene therapy experiments or protocols also employ viral-based gene delivery systems. Such procedures pose the risk of contamination with potentially pathogenic wild-type virus, which is a significant safety concern. Also, these systems may result in significant host immune responses to transfected cells that express viral proteins on their surfaces."

Thus, Wiener *et al.* teaches away from producing viral based gene delivery systems. Applicants respectfully point out that the prior art must be considered in its entirety, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc. 721 F.2d 1540 (Fed. Cir. 1983); see also, M.P.E.P. §2141.02.

Applicants further respectfully point out that for a rejection under 35 U.S.C. §103(a) to be proper, there must be a suggestion or motivation to modify or to combine the reference teachings to produce the specifically claimed invention. In re Vaeck, 947 F.2d 1438 (Fed. Cir. 1991); see also, M.P.E.P. §2142. Here however, Wiener *et al.* not only fail to provide a motivation to produce the claimed virus including the recited recombinant adeno-associated virus vector, but as discussed above, teach away from producing viral-based gene delivery systems. Thus, in view of the teachings of Wiener *et al.* the skilled artisan at the time of the invention would not by motivated to 1) modify Wiener *et al.* to produce the claimed virus

including the recited recombinant adeno-associated virus vector; or 2) combine Wiener *et al.* with a secondary reference that describes producing a viral-based gene delivery system.

Applicants additionally respectfully point out that the courts have repeatedly held that absent a motivation to modify or to combine the cited references a rejection under 35 U.S.C. §103(a) is improper: Without a proper motivation to combine, a rejection based on a *prima facie* case of obviousness was held improper. Al-Site v. VSI Int'l Inc., 174 F.3d 1308 (Fed. Cir. 1999); and, The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In re Mills, 916 F.2d 680 (Fed. Cir. 1990); see also, M.P.E.P. §2143.01. Absent the requisite motivation to combine Wiener *et al.* with a secondary reference for the reasons set forth above, it is improper to combine Wiener *et al.* with Crabtree *et al.* Accordingly, the rejection under 35 U.S.C. §103(a) over Wiener *et al.* (U.S. Patent No. 6,342,390) in view of Crabtree *et al.* (U.S. Patent No. 5,834,266) is improper and Applicants respectfully request that it be withdrawn.

CONCLUSION

In summary, for the reasons set forth herein, Applicants maintain that claims 1 to 17 clearly and patentably define the invention, respectfully request that the Examiner reconsider the various grounds set forth in the Office Action, and respectfully request the allowance of the claims which are now pending.

If the Examiner would like to discuss any of the issues raised in the Office Action, Applicant's representative can be reached at (858) 509-4065.

Please charge any additional fees, or make any credits, to Deposit Account No. 03-3975.

Respectfully submitted,

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